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**ROLE OF MATRIX METALLOPROTEINASE-2 ON ARTERIAL REMODELLING IN PREHYPERTENSIVES**

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**Objective** Elevated blood pressure causes a change in arterial remodelling by altering extracellular matrix composition. However, whether matrix metalloproteinase-2 (MMP-2) is altered in the change of large arterial compliance in prehypertensive subjects has been incompletely investigated.

**Method** According to the criteria of JNC7, 180 subjects were divided into three groups: (1) normotensive group (n=58), (2) prehypertensive group (n=62) and (3) hypertensive group (n=60). Brachium-ankle pulse wave velocity (BaPWV) was measured by an automatic waveform analyser (form PWV/ABI) and carotid artery intima-media thickness (IMT) was determined ultrasonographically. MMP-2 mRNA level were obtained by real time RT-PCR.

**Result** In prehypertensives, MMP-2, baPWV and IMT levels are higher than that in normotensives ( $p<0.01$ ) and lower than that in hypertensives ( $p<0.01$ ). MMP-2 mRNA level correlated linearly and significantly with baPWV and IMT ( $p<0.01$ ), even after adjustments for confounding variables. Multiple stepwise regression analysis showed that MMP-2, SBP and age were the independent risk factors of BaPWV and IMT.

**Conclusions** Large arterial structure and function have changed in prehypertensives subjects. BaPWV and IMT were closely related to the level of blood pressure. MMP-2 may play a role in the process of arterial remodelling in prehypertensive subjects.